

Fire TYPE TEST REPORT

FP14153-01-1

THE FIRE RESISTANCE IN ACCORDANCE WITH AS 1530.4:2014 OF PIPE AND CABLE PENETRATION SPECIMENS INSTALLED IN A PLASTERBOARD LINED STEEL STUD WALL

CLIENT

Soudal Limited
14 Avalon Drive
Nawton
Hamilton, 3200
New Zealand

All tests and procedures reported herein, unless indicated, have been performed in accordance with the laboratory's scope of accreditation

TEST SUMMARY

Objective

To determine the fire resistance of pipe and cable penetration systems in accordance with AS 1530.4:2014, *Fire resistance tests for elements of building construction: Section 10, Service Penetrations and control joints*, with reference to AS 4072.1:2005.

Test Sponsor

Soudal Limited

14 Avalon Drive
Nawton
Hamilton, 3200
New Zealand

Description of Test Specimen

The test wall consisted of a nominally 2,200 mm high by 1,000 mm wide by 90 mm thick steel stud wall comprising 64 mm studs and floor track lined with a single layer of 13 mm thick GIB Fyreline® plasterboard (GBS 60) on each face.

The wall was provided with nine apertures which were penetrated by nine specimens of various cable and pipe services.

Date of Test

12 September 2022

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Test Results

The fire resistance in minutes, in accordance with AS 1530.4:2014, of the penetrations and their sealing systems in a steel stud, plasterboard lined wall, was as follows:

Specimen No.	Specimen Details	Integrity (minutes)	Insulation (minutes)	FRL*
1	125NB Ø Steel Pipe Firecryl Acrylic Sealant	93 NF	19	-/60/-
2	20 mm Ø Copper Pipe Firecryl Acrylic Sealant	93 NF	9	-/60/-
3	Cable Tray: • SAT6DS PVC Co-Axial Cable Bundle • 4 mm^2 3C TPS Cable Bundle • C-C6-SLDBLUE 4Pair Ethernet Cable Bundle • Cat5e 4P+2SM Fibre Cable Bundle Firecryl Acrylic Sealant Gorilla Fire Rated Expanding Foam	88	58	-/60/30
4	2.5 mm^2 & 4 mm^2 3C TPS Cable Bundle Firecryl Acrylic Sealant	93 NF	61	-/60/60
5	2.5 mm^2 & 4 mm^2 3C TPS Cable Bundle Firecryl Acrylic Sealant	93 NF	46	-/60/30
6	2.5 mm^2 & 4 mm^2 3C TPS Cable Bundle Firecryl Acrylic Sealant	93 NF	53	-/60/30
7	• SAT6DS PVC Co-Axial Cable Bundle • C-C6-SLDBLUE 4Pair Ethernet Cable Bundle • Cat5e 4P+2SM Fibre Cable Bundle Firecryl Acrylic Sealant	78	60	-/60/60
8	C-C6-SLDBLUE 4Pair Ethernet Cable Bundle Firecryl Acrylic Sealant	66	52	-/60/30
9	Cat5e 4P+2SM Fibre Cable Firecryl Acrylic Sealant	93 NF	67	-/60/60

The test was terminated after 93 minutes.

NF = No Failure

*The test was conducted on a wall system with an established FRL of -/60/60. The maximum FRL of any test specimen cannot exceed the FRL achieved by the wall system in which it is installed or the penetration system.

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The test standard requires the following statement to be included:

"The results of these fire tests may be used to directly assess fire hazard, but it should be recognized that a single test method will not provide a full assessment of fire hazard under all fire conditions."

"This report details methods of construction, the test conditions and results obtained when the specific element of construction described herein was tested following the procedure outlined in this standard. Any significant variations with respect to size, constructional details, loads, stresses, edge or end conditions, other than those allowed under the field of direct application in the relevant test method, is not covered by this report."

"Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result."

LIMITATION

The results reported here relate only to the item/s tested.

TERMS AND CONDITIONS

This report is issued in accordance with the Terms and Conditions as detailed and agreed in the BRANZ Services Agreement for this work.

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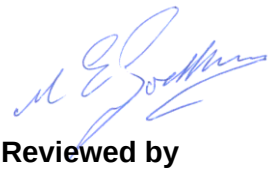

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1. TEST PROCEDURE

The test was conducted in accordance with AS 1530.4:2014, “Methods for fire tests on building materials, components and structures, Part 4 Fire-resistance tests for elements of construction”, with reference to AS 4072.1:2005.

1.1 Integrity Failure Criteria

The service penetrations were tested in accordance with AS 1530.4:2014, Section 10, “Service penetrations and control joints” for which the fire resistance of the specimen is the time, expressed in minutes, to integrity failure under one or more of the following criteria.

Failure shall be deemed to occur if;

a) there is sustained flaming for a period greater than 10 seconds on the unexposed face; or

b) flames and/or hot gases cause flaming or glowing of the cotton fibre pad.

1.2 Insulation Failure Criteria

The service penetrations were tested in accordance with AS 1530.4:2014, Section 10, “Service penetrations and control joints” for which the fire resistance of the specimen is the time, expressed in minutes, to insulation failure under the following criteria.

Failure shall be deemed to occur if;

a) the maximum temperature at any point on the unexposed surface of the seal exceeds the initial temperature by 180 K; or

b) the maximum temperature on the unexposed surface of the surround element, 25 mm from penetration edge exceeds the initial temperature by 180 K; or

c) the maximum temperature on the unexposed surface of the service, 25 mm from the plane of the general surface of the penetrated element and its insulating topping, if any, exceeds the initial temperature by 180 K.

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2. DESCRIPTION OF THE TEST SPECIMEN

2.1 General

The test wall consisted of a nominally 2,200 mm high by 1,000 mm wide by 90 mm thick steel stud wall comprising 64 mm studs and floor track lined with a single layer of 13 mm thick GIB Fyreline® plasterboard (GBS 60) on each face.

The wall was provided with nine apertures which were penetrated by nine specimens of various cable and pipe services. Additional steel framing was installed to separate the individual penetrations.

All dimensions are nominal unless stated. The specimen orientation is described as viewed from the unexposed face.

See Figure 1 for specimen details and locations. Where discrepancies exist between the dimensions in the report text and those shown in the attached drawings, the report takes precedence.

2.1.1 Conditioning

Framing of the wall occurred on 14 June 2022 with linings applied on 15 and 16 June 2022. The wall was left under ambient laboratory conditions until the installation of the specimens on 26 and 27 June 2022 and subsequent testing on 12 September 2022.

2.1.2 Specimen Selection

BRANZ was responsible for the construction of the wall to the customer's specification and the procurement of the cable tray, cable and pipe specimens. A representative of the customer was responsible for the installation and fire protection of the penetration specimens.

2.2 Penetration Details

2.2.1 Pipe Penetrations - Specimen 1 & 2

Details of the pipe specimens tested are shown in Table 1.

Table 1: Pipe Penetration Details

Specimen No.	Nom Pipe Size (mm)	Core Hole Size (mm)	Pipe Type	Pipe Dimensions as Measured (mm)		Pipe (Unex/Ex)
				OD	thk	
1	140	150	1 x 125NB Steel Pipe	140	5.8	Open/Capped
2	20	31.5	1 x 20 mm ø Copper Pipe	21.2	1.1	Open/Capped

2.2.2 Cable Tray - Specimen 3

Details of the cable tray and the cables installed are shown in Table 2.

Table 2: Cable Tray Penetration Details

Specimen No.	Aperture Size (mm x mm)	Cable Tray Size (mm x mm)	Cable Type	Number of Cables
3	565 x 120	455 x 25	SAT6DS PVC Co-Axial Cable	8
			4 mm^2 TPS Cable	9
			C-C6-SLDBLUE 4Pair Ethernet Cable	9
			Cat5e 4P+2SM Fibre Cable	7

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2.2.3 Power/Data Cables - Specimen 4 to 9

Details of the cable specimens tested are shown in Table 3.

Table 3: Cable Penetration Details

Specimen No.	Core Hole Size (mm)	Cable Type	Number of Cables
4	32	3 core 2.5 mm^2 & 4 mm^2 TPS Cable	3 & 2
5	31.6	3 core 2.5 mm^2 & 4 mm^2 TPS Cable	4 & 2
6	25	3 core 2.5 mm^2 & 4 mm^2 TPS Cable	3 & 2
7	44	SAT6DS PVC Co-Axial Cable	5
		C-C6-SLDBLUE 4Pair Ethernet Cable	6
		Cat5e 4P+2SM Fibre Cable	3
8	32	C-C6-SLDBLUE 4Pair Ethernet Cable	8
9	25	Cat5e 4P+2SM Fibre Cable	1

2.3 Penetration Sealing Systems

2.3.1 Specimen 1 - 125NB Steel Pipe

The steel pipe specimen was installed through the openings provided in the wall and supported centrally within the openings. A 0.6 mm thick x 120 wide steel band was wrapped around the pipe and located within the wall opening, the steel band protruded outside of the wall on the exposed face by approximately 20 mm. A thin bead of Firecryl Acrylic Sealant was applied into the annular gap between the pipe and band on both sides of the wall.

The pipe was supported on the unexposed face via a pipe clamp nominally 150 mm from the wall and mechanically fixed to a steel support frame nominally 350 mm from the wall.

2.3.2 Specimen 2 - 20 mm ø Copper Pipe

The copper pipe was installed through the openings provided in the wall and supported centrally within the openings. A thin bead of Firecryl Acrylic Sealant was applied into the annular gap between the pipe and the plasterboard lining on both sides of the wall.

The pipe was supported on the unexposed face via a pipe clamp nominally 350 mm from the wall.

2.3.3 Specimen 3 - Cable Tray

The 455 mm wide x 25 mm deep steel cable tray was installed through the openings provided in the wall and supported nominally 20 mm above the lower edge of the openings. The cable tray was secured on the unexposed face to a steel support frame nominally 350 mm from the wall. A 0.6 mm thick x 120 mm wide steel band was wrapped around the cable tray and located within the wall opening, the steel band protruded outside of the wall on the exposed face by approximately 20 mm.

Four cable bundle specimens were attached to the cable tray passing through the wall below the steel banding, 50 mm spacing was provided between the bundles and to the edges of the cable tray. The cables were tied to the cable tray 100 mm and 450 mm from the wall on both faces.

Gorilla Fire Rated Expanding Foam was applied into all areas of the opening and allowed to expand. Once the foam was cured the excess material was removed so the surface was flush with the outer faces of the wall.

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Firecryl Acrylic Sealant was applied onto the cured Gorilla Fire Rated Expanding Foam on both faces of the wall and finished with a trowel to leave a smooth surface.

2.3.4 Specimens 4 to 9 - Power/Data Cables

The six cable penetrations were installed within their respective openings and supported centrally within their openings. A thin bead of Firecryl Acrylic Sealant was applied into the annular gap between the cable and the plasterboard lining on both sides of the wall.

2.4 13 mm Fyreline® Lined Steel Stud Wall

The wall briefly comprised RONDO 64 mm steel stud (0.5 mm BMT) and floor track (0.55 mm BMT) sections and a single layer of 13 mm thick GIB Fyreline® plasterboard on each face.

In addition to two full height vertical perimeter studs, a central vertical stud was provided which was interrupted by the opening for Specimen 3. Two further vertical intermediate studs were provided running from a horizontal floor track section forming the lower edge of the opening for Specimen 3 up to the head track and were spaced 600 mm apart. Additional horizontal floor track sections were positioned to frame the individual specimen openings. These horizontal floor track sections were mechanically fixed with 6g x 16 mm TEK screws to the adjacent studs. Superwool insulation was inserted into the framing excluding the perimeter stud and track sections.

The steel frame was lined on each face with a single layer of 13 mm thick GIB Fyreline® plasterboard. The plasterboard was screwed to the framing using 6g x 25 mm long drywall screws at 300 mm centres at the stud positions. The fixing positions in the boards were covered with a stopping compound.

The GIB Fyreline® plasterboard had the following measured properties:

Measured thickness	13.0 mm
Measured weight per unit area	10.08 kg/m²
Measured moisture content by weight	0.98 %

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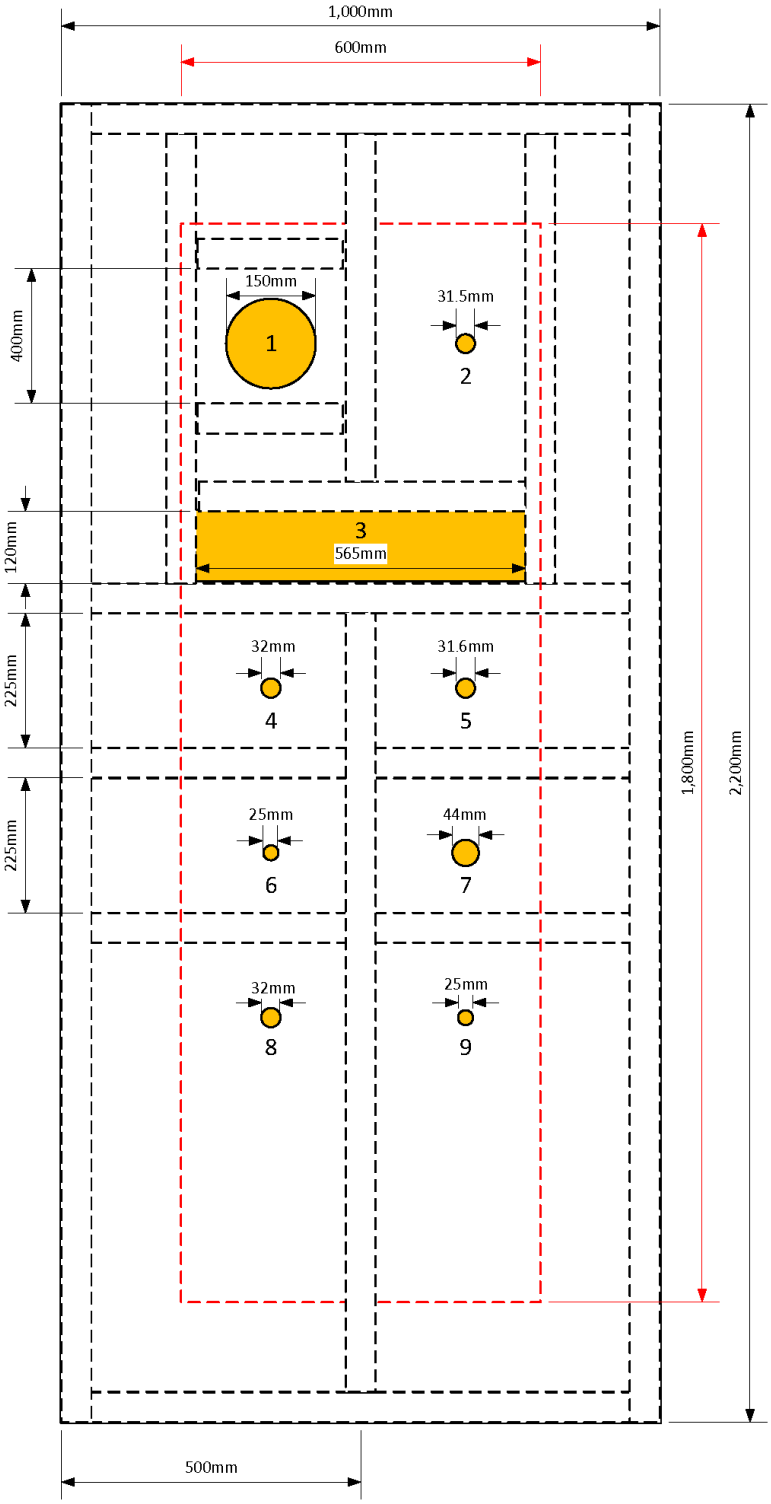
Figure 1: Framing and Penetration Details - Elevation View



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3. TEST CONDITIONS AND RESULTS

3.1 General

The specimen was tested on 12 September 2022, at the BRANZ laboratories at Judgeford, New Zealand in the presence of the client.

The ambient temperature at the beginning of the test was 13°C.

The specimens were placed against the vertical furnace and the temperature and pressure conditions were controlled to the limits defined in AS 1530.4:2014.

The test was terminated after the specimen had been exposed to the standard fire resistance conditions for 93 minutes.

3.2 Furnace Conditions

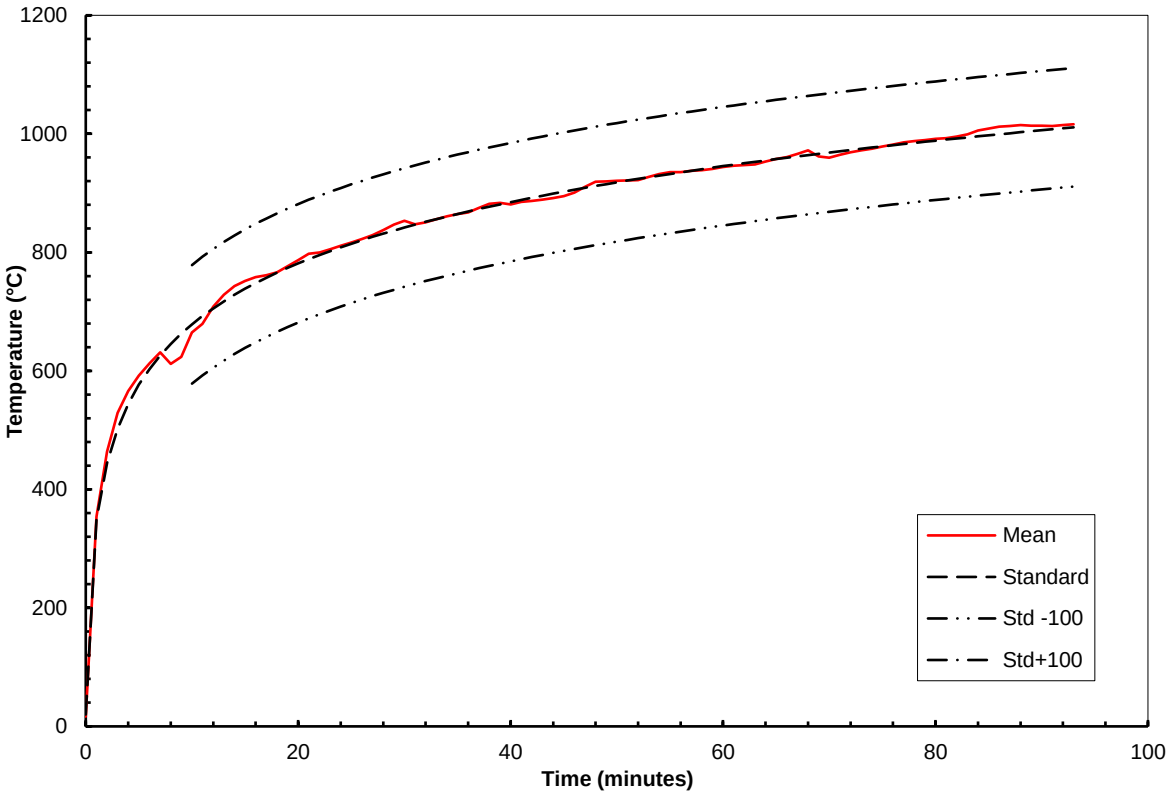
3.2.1 Furnace Temperature Measurement

Temperature measurement within the furnace was made using four mineral insulated metal sheathed (MIMS) chromel-alumel thermocouples uniformly distributed in a vertical plane approximately 100 mm from the exposed face of the specimen.

The furnace thermocouples were connected to a computer controlled data logging system which recorded the temperatures at 15 second intervals.

Figure 2 shows the furnace temperature curve and the permitted upper and lower limits in accordance with AS 1530.4:2014.

Figure 2: Furnace Temperature



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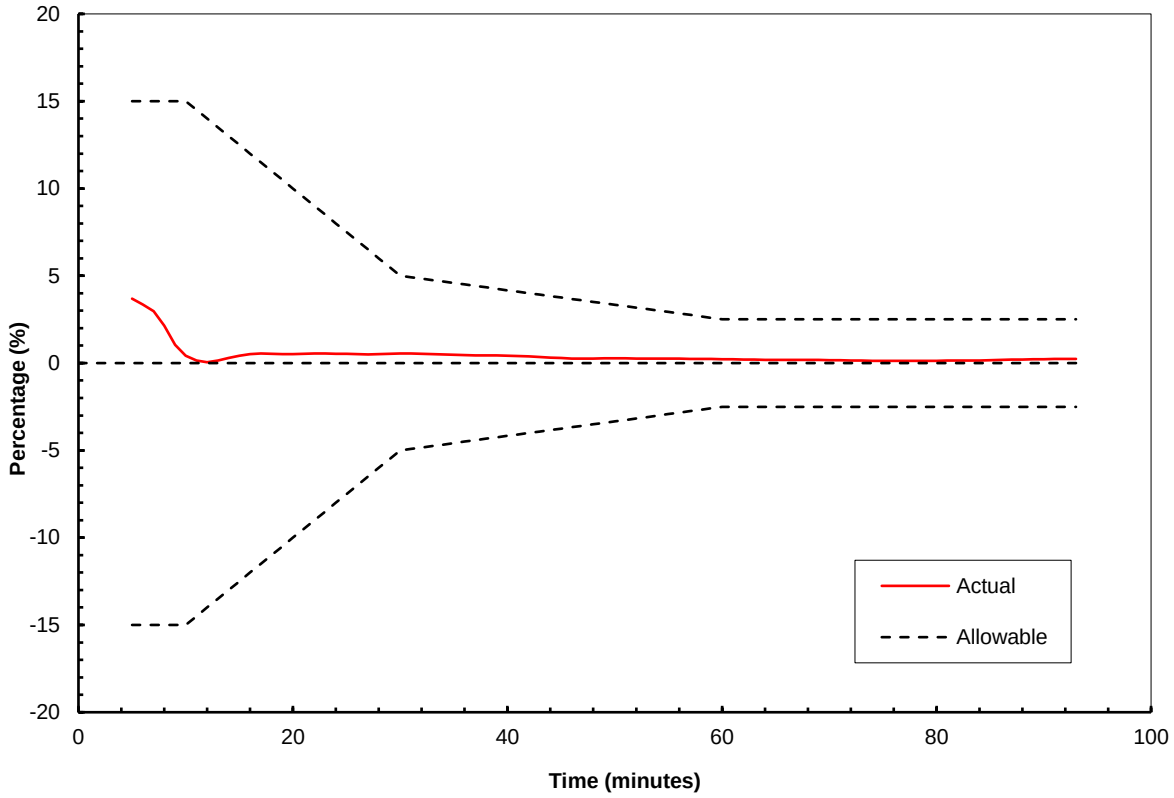
3.2.2 Furnace Control

The percentage deviation of the area of the furnace mean temperature from the standard temperature/time curve was within the standard requirements.

Figure 3 shows the percentage deviation of the mean furnace temperature from the Standard curve.

Figure 3: Percentage Deviation from Standard Curve



3.2.3 Pressure Measurements

The furnace pressure was controlled to be 15 Pa at mid height of the lowest penetration as defined in the test standard. This corresponded to a pressure of 16.3 Pa at the pressure probe and 24 Pa at the highest penetration. The differential pressure was monitored using a micromanometer connected to a computer controlled data logging system which recorded the pressure at 15 second intervals.

Figure 4 shows the pressure measured at the probe during the test.

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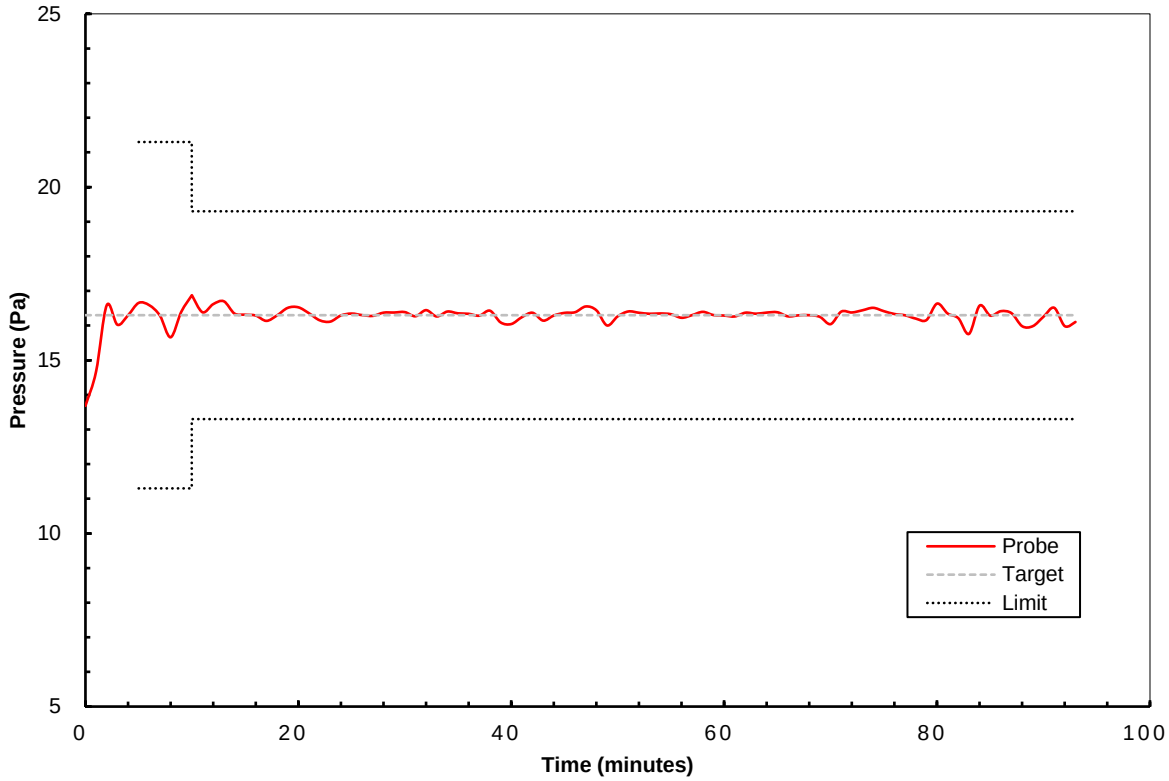
Figure 4: Mean Furnace Pressure



In summary, the furnace conditions complied with the test standard.

3.3 Specimen Temperature Measurement

The temperature of the unexposed face of the specimens was measured using chromel-alumel thermocouples mounted on copper discs and covered by an insulating pad as defined in the test standard. Thermocouples were positioned on the element, pipes, cables, cable tray and seal as specified by AS 1530.4:2014.

All the thermocouples described above were connected to a computer controlled data logging system which recorded the temperatures at 15 second intervals.

A description of the thermocouple positions is shown in Table 4.

The maximum temperature rise measured on each penetration system is shown in Figure 5 to Figure 14.

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Table 4: Thermocouple Positions

Specimen	Penetration	Position	T/C Numbers	
			12 o'clock	9 o'clock
1	125NB Steel Pipe	On Wall 25 mm from Seal	23	24
		On Pipe 25 mm from Seal	25	26
2	20 mm Copper Pipe	On Wall 25 mm from Seal	27	28
		On Pipe 25 mm from Seal	29	30
3	Cable Tray	On Wall 25 mm from Seal	32	34
		On Tray Edges 25 mm from Seal	37	36
		On Seal	33	35
	Coaxial Cable	On Seal 25 mm from Cable Bundle	40	
		On Cable Bundle 25 mm from Seal	38	39
	TPS Cable	On Seal 25 mm from Cable Bundle	44	
		On Cable Bundle 25 mm from Seal	41	43
	Ethernet Cable	On Seal 25 mm from Cable Bundle	47	
		On Cable Bundle 25 mm from Seal	45	46
	Fibre Cable	On Seal 25 mm from Cable Bundle	50	
		On Cable Bundle 25 mm from Seal	48	49
4	TPS Cable	On Wall 25 mm from Cable Bundle	51	52
		On Cable Bundle 25 mm from Seal	53	54
5	TPS Cable	On Wall 25 mm from Cable Bundle	61	62
		On Cable Bundle 25 mm from Seal	63	64
6	TPS Cable	On wall 25 mm from Cable Bundle	55	56
		On Cable Bundle 25 mm from Seal	57	59
7	Mixed Bundle Coaxial/Ether/Fibre	On Wall 25 mm from Cable Bundle	65	66
		On Cable Bundle 25 mm from Seal	67	68
8	Ethernet Cable	On Wall 25 mm from Cable Bundle	71	72
		On Cable Bundle 25 mm from Seal	73	74
9	Fibre Cable	On Wall 25 mm from Cable	75	76
		On Cable 25 mm from Seal	77	
Wall			21	22

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Figure 5: Specimen 1 - Maximum Temperature Rise

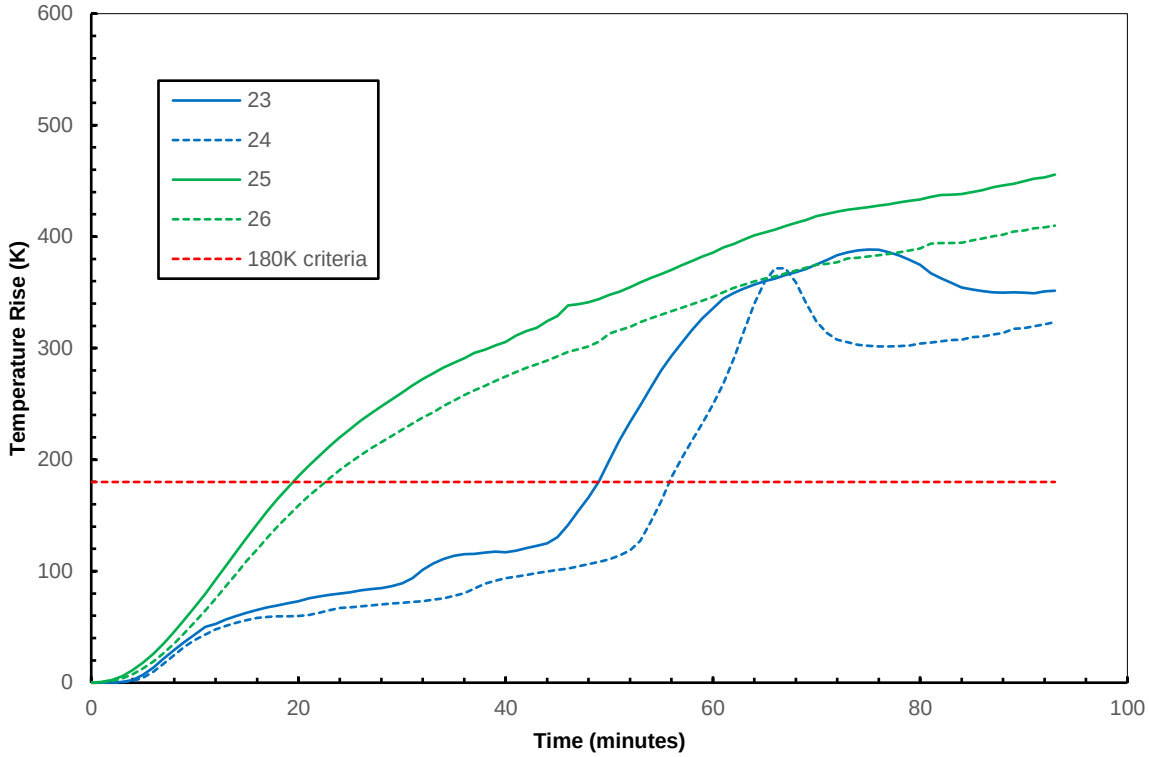

Figure 6: Specimen 2 - Maximum Temperature Rise

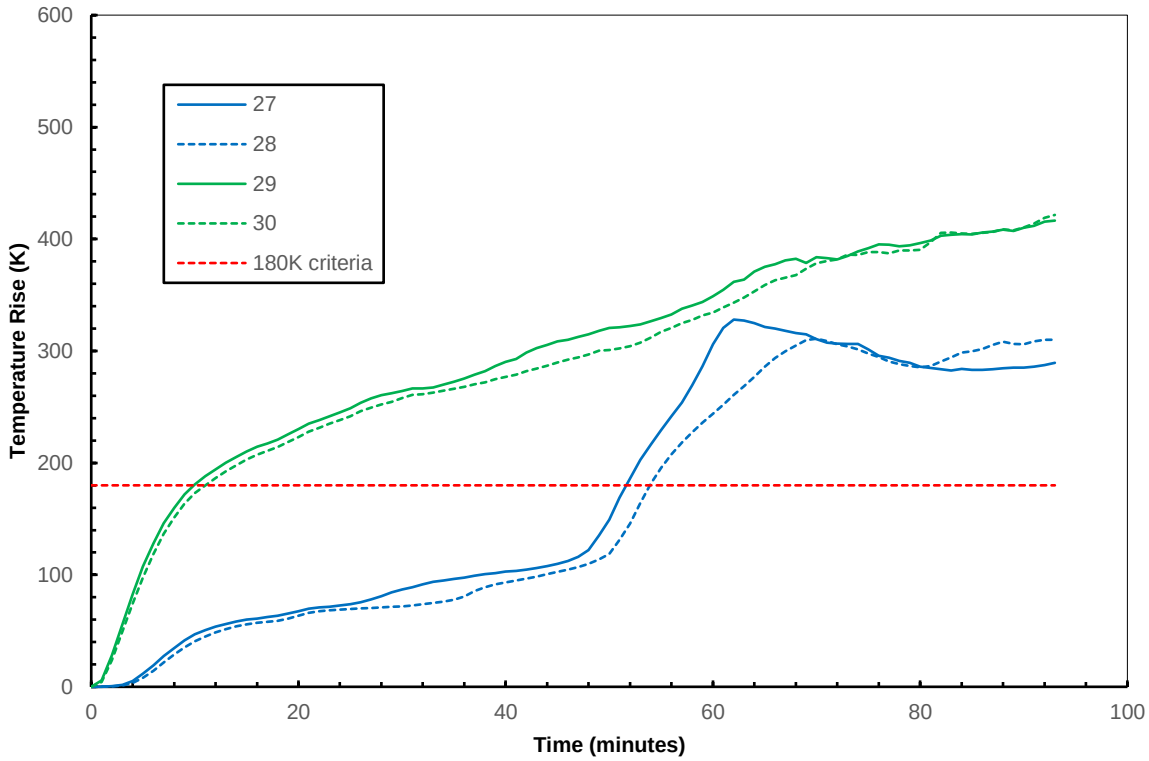

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Figure 7: Specimen 3 - Wall/Cable Tray/Seal - Maximum Temperature Rise

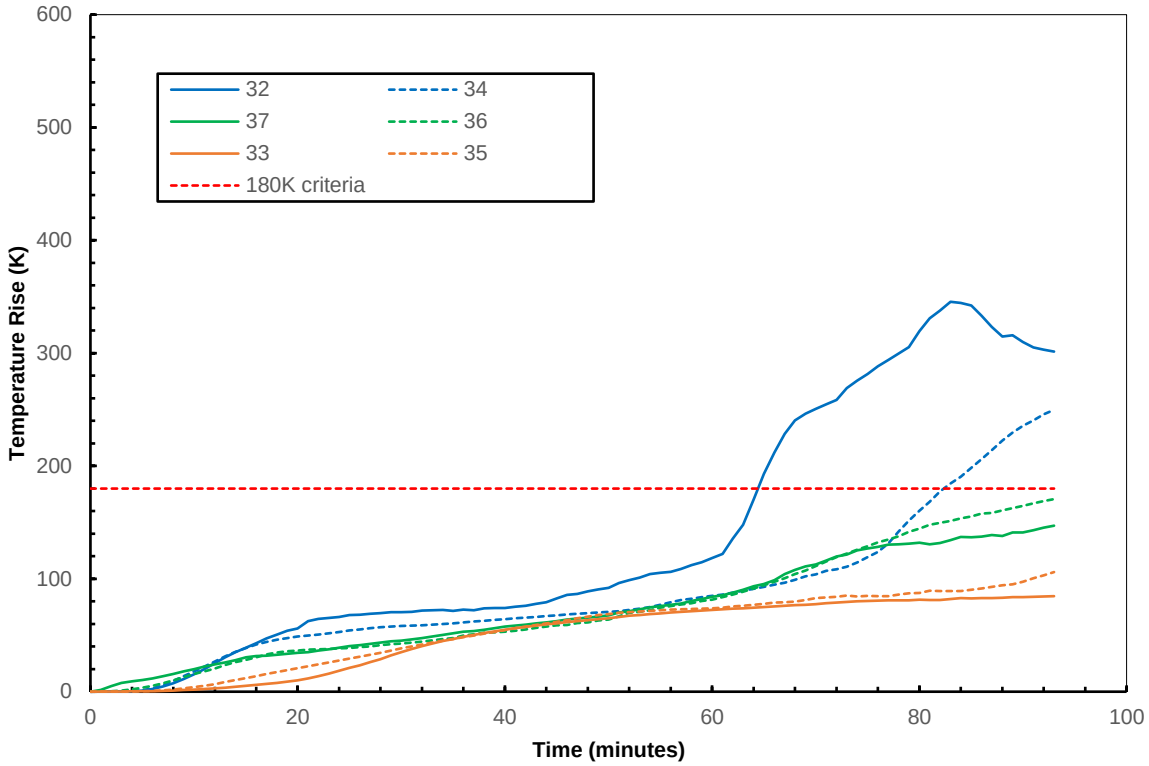

Figure 8: Specimen 3 - Cable Bundles/Seal - Maximum Temperature Rise

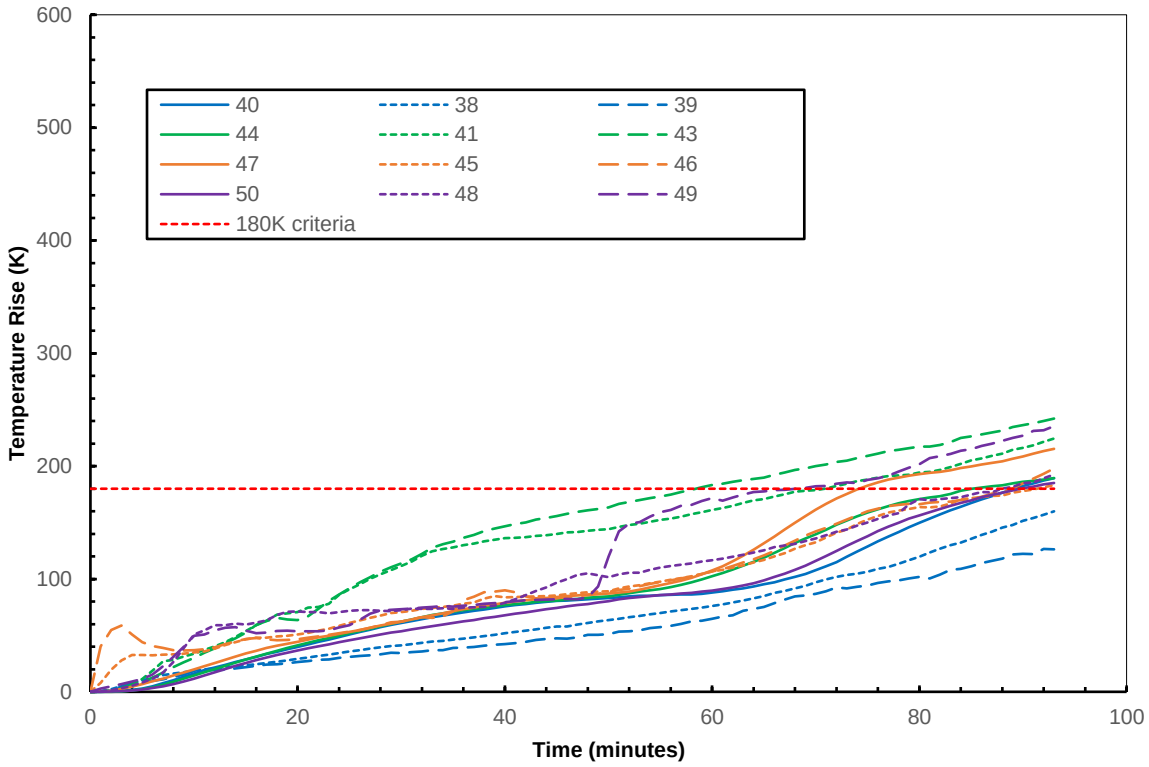

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Figure 9: Specimen 4 - Maximum Temperature Rise

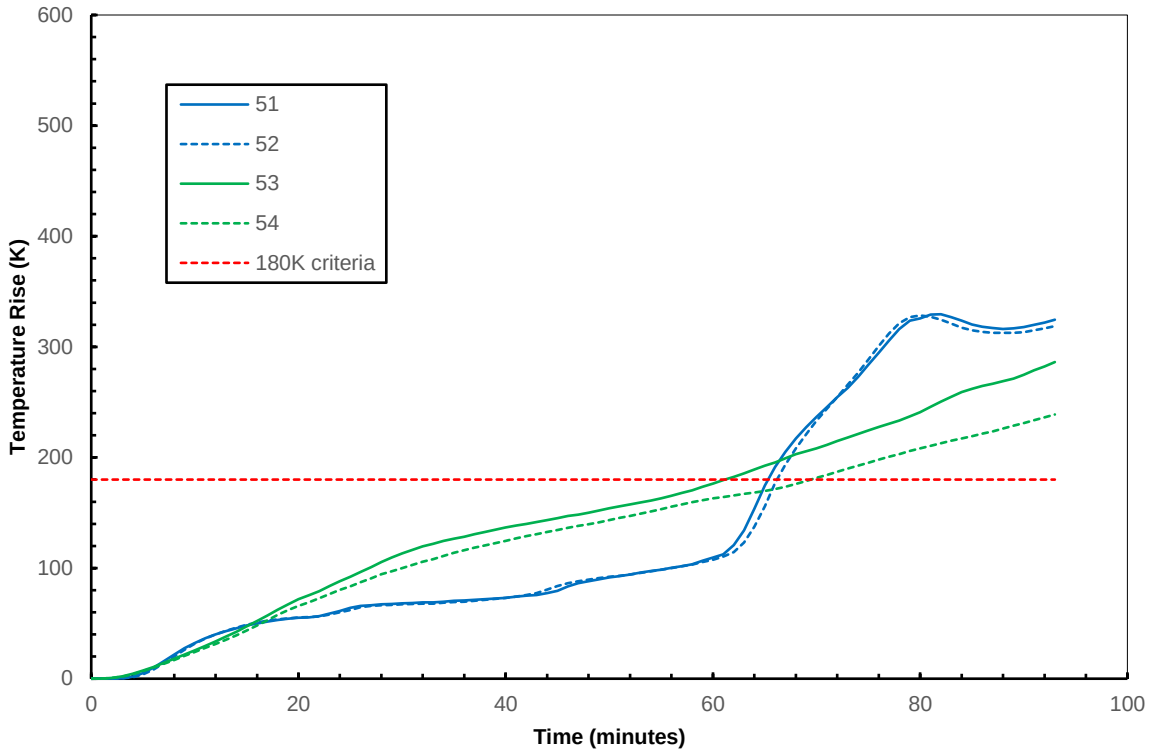

Figure 10: Specimen 5 - Maximum Temperature Rise

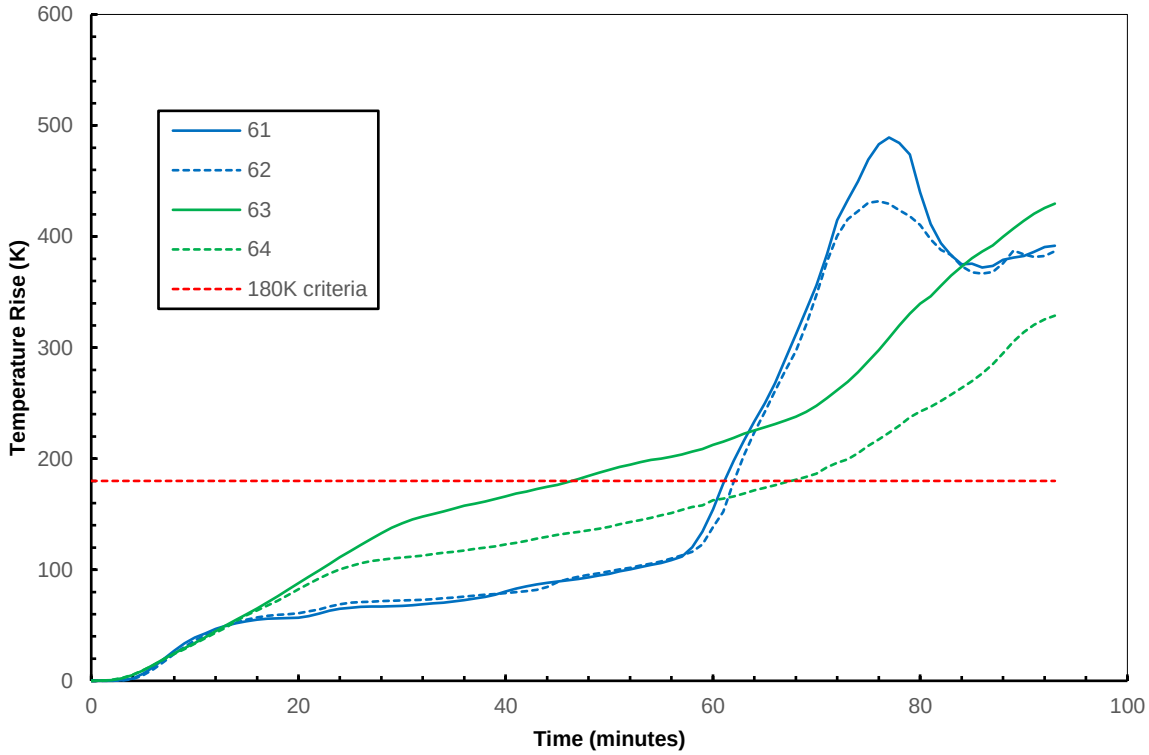

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Figure 11: Specimen 6 - Maximum Temperature Rise

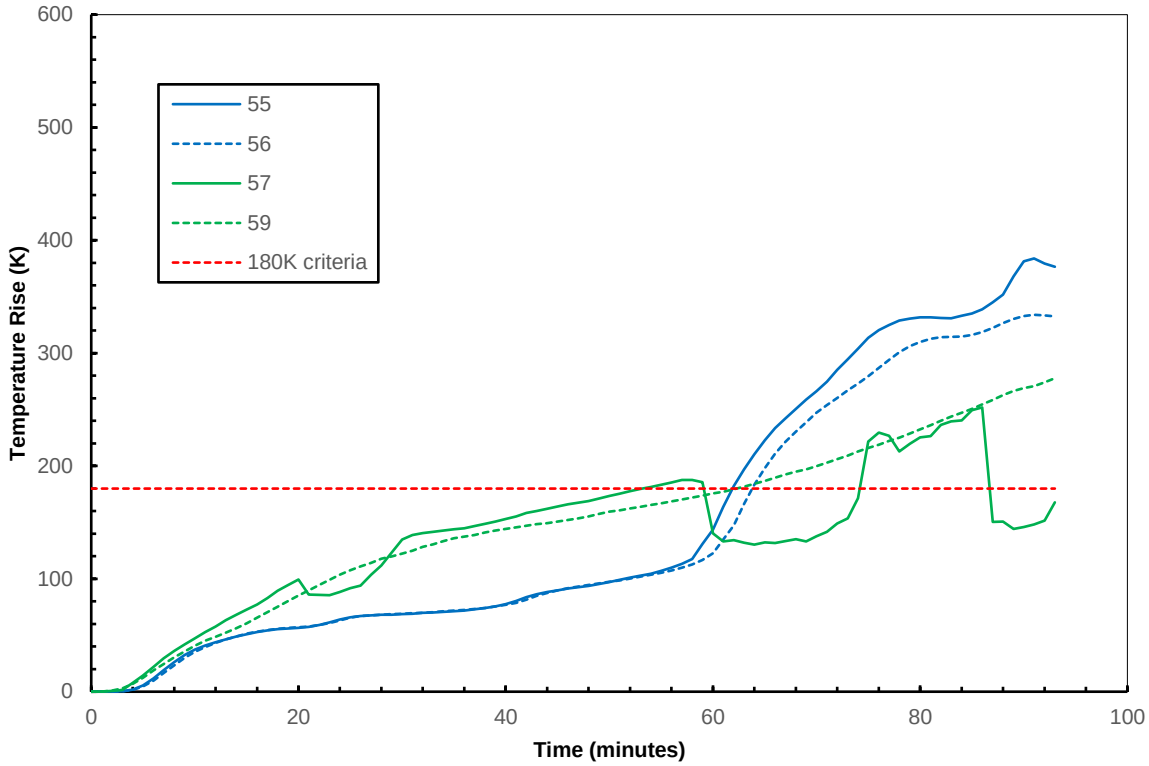

Figure 12: Specimen 7 - Maximum Temperature Rise

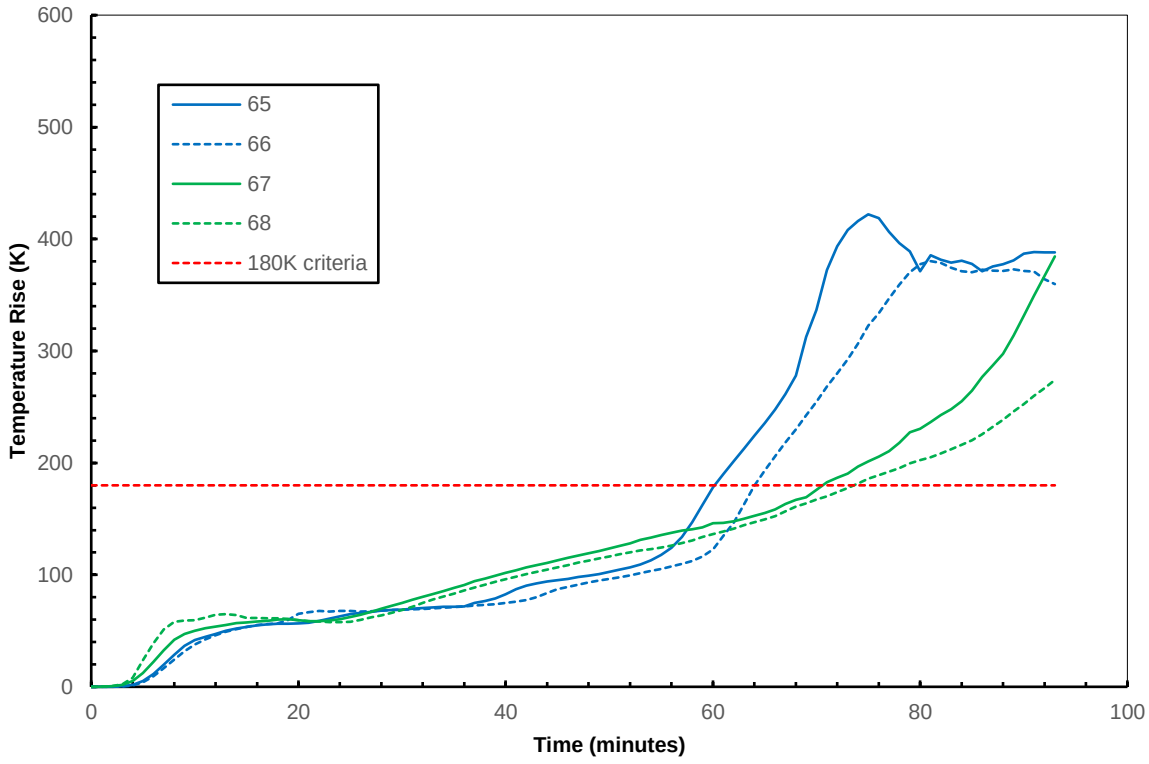

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Figure 13: Specimen 8 - Maximum Temperature Rise

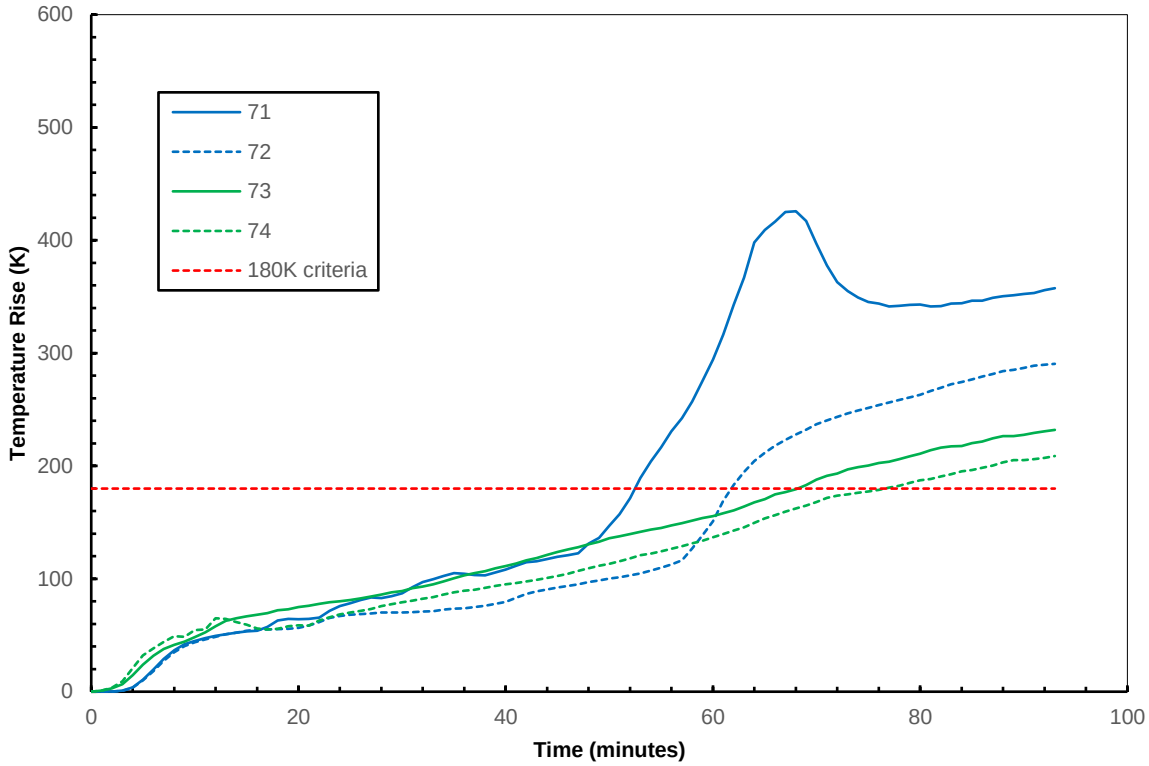
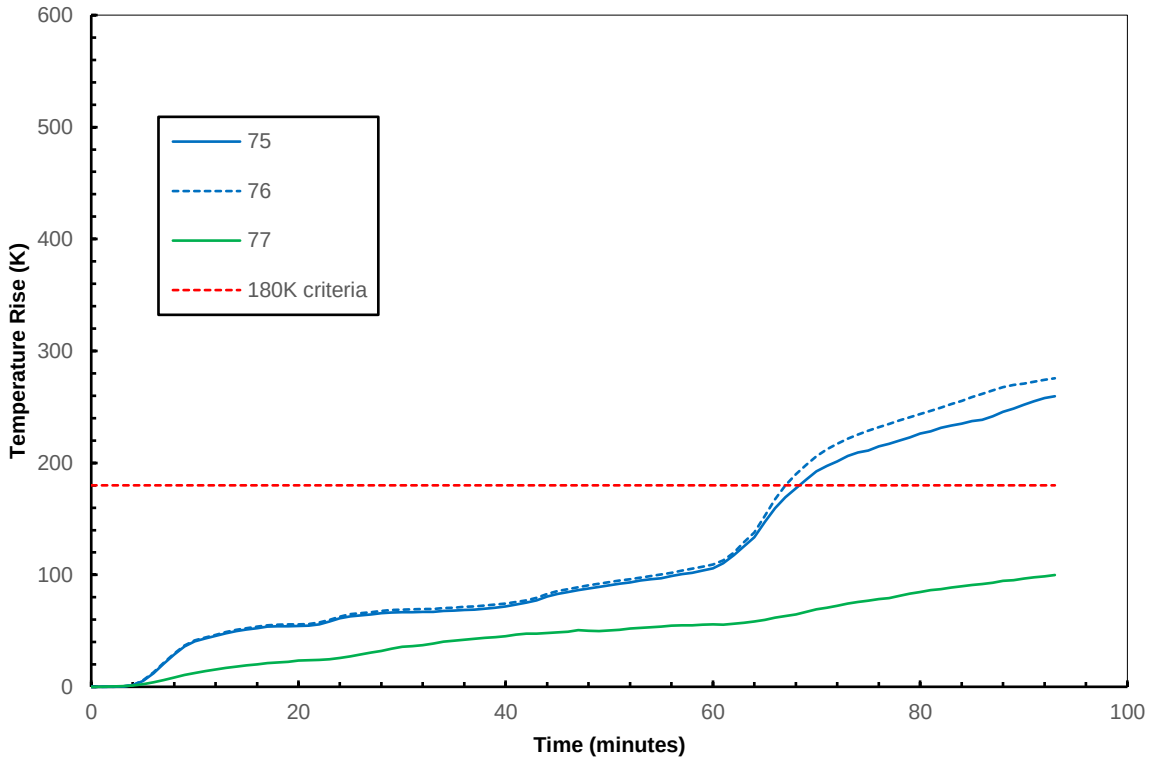


Figure 14: Specimen 9 - Maximum Temperature Rise



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3.4 Specimen Integrity

Integrity failures were recorded as follows in Table 5.

Table 5: Specimen Integrity

Penetration No.	Time (minutes) Until Which Integrity Failure Occurred
1	93 - No Failure
2	93 - No Failure
3	88 - Cotton Wool Pad
4	93 - No Failure
5	93 - No Failure
6	93 - No Failure
7	78 - Cotton Wool Pad
8	66 - Cotton Wool Pad
9	93 - No Failure

3.5 Specimen Insulation

Insulation failures were recorded as follows in Table 6

Table 6: Specimen Insulation

Penetration No.	Time (minutes) Until Which Integrity Failure Occurred
1	19
2	9
3	58
4	61
5	46
6	53
7	60
8	52
9	67

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3.6 Observations

Observations related to the performance of the specimen were at the times stated in minutes and seconds.

U = Observations from the unexposed face.
E = Observations from the exposed face.

Table 7: Test Observations

Time (Min:Sec)	Test Face	Observations
00:00	-	The test commences.
01:20	U	Smoke issue commences from the cable tray of Specimen 3.
02:00	U	Smoke issue commences from the seals of specimens 4, 5, 6 & 7.
05:00	U	Smoke issue is beginning to reduce from the specimens previously observed.
19:00	U	Smoke issue commences from the seal of Specimen 9 from a crack in the seal.
20:00	U	Cotton wool pad applied to the seal of Specimen 9 but did not ignite.
21:00	U	A crack has developed in the seal above the cable tray of Specimen 3.
22:00	U	Cotton wool pad applied to the seal of Specimen 9 but did not ignite.
25:00	U	Cotton wool pad applied to the seal of Specimen 8 but did not ignite.
29:00	U	Cotton wool pad applied to the seal of Specimen 8 but did not ignite.
30:00	-	All of the penetration specimens continue to maintain Integrity.
34:30	U	Cotton wool pad applied to the seal of Specimen 8 but did not ignite.
42:00	U	Smoke issue is increasing from the crack in the seal above the cable tray of Specimen 3.
49:00	U	Smoke issue is increasing from the seal below the cable tray of Specimen 3.
58:00	U	Cotton wool pad applied to the seal of Specimen 8 but did not ignite.
60:00	-	All of the penetration specimens continue to maintain Integrity.
61:20	U	Glowing is visible through the seal of Specimen 8.
66:10	U	Cotton wool pad applied to the seal of Specimen 8 and ignition occurs. **Integrity failure is deemed to have occurred.**
68:50	U	Cotton wool pad applied to the seal of Specimen 7 but did not ignite.
72:40	U	Cotton wool pad applied to the seal of Specimen 7 but did not ignite.
78:10	U	Cotton wool pad applied to the seal of Specimen 7 and ignition occurs. **Integrity failure is deemed to have occurred.**
80:10	U	Cotton wool pad applied to the seal of Specimen 3 but did not ignite.
88:50	U	Cotton wool pad applied to the seal of Specimen 3 and ignition occurs. **Integrity failure is deemed to have occurred.**
93:20		The test is discontinued.

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4. SUMMARY

The fire resistance in minutes, in accordance with AS 1530.4:2014, of the penetrations and their sealing systems in a plasterboard, steel stud wall, was as follows:

Specimen No.	Specimen Details	Integrity (minutes)	Insulation (minutes)	FRL*
1	125NB Steel Pipe Firecryl Acrylic Sealant	93 NF	19	-/60/-
2	20 mm Ø Copper Pipe Firecryl Acrylic Sealant	93 NF	9	-/60/-
3	Cable Tray: • SAT6DS PVC Co-Axial Cable Bundle • 4 mm^2 3C TPS Cable Bundle • C-C6-SLDBLUE 4Pair Ethernet Cable Bundle • Cat5e 4P+2SM Fibre Cable Bundle Firecryl Acrylic Sealant Gorilla Fire Rated Expanding Foam	88	58	-/60/30
4	2.5 mm^2 & 4 mm^2 3C TPS Cable Bundle Firecryl Acrylic Sealant	93 NF	61	-/60/60
5	2.5 mm^2 & 4 mm^2 3C TPS Cable Bundle Firecryl Acrylic Sealant	93 NF	46	-/60/30
6	2.5 mm^2 & 4 mm^2 3C TPS Cable Bundle Firecryl Acrylic Sealant	93 NF	53	-/60/30
7	• SAT6DS PVC Co-Axial Cable Bundle • C-C6-SLDBLUE 4Pair Ethernet Cable Bundle • Cat5e 4P+2SM Fibre Cable Bundle Firecryl Acrylic Sealant	78	60	-/60/60
8	C-C6-SLDBLUE 4Pair Ethernet Cable Bundle Firecryl Acrylic Sealant	66	52	-/60/30
9	Cat5e 4P+2SM Fibre Cable Firecryl Acrylic Sealant	93 NF	67	-/60/60

The test was terminated after 93 minutes.

NF = No Failure

*The test was conducted on a wall system with an established FRL of -/60/60. The maximum FRL of any test specimen cannot exceed the FRL achieved by the wall system in which it is installed or the penetration system.

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The test standard requires the following statement to be included:

"The results of these fire tests may be used to directly assess fire hazard, but it should be recognized that a single test method will not provide a full assessment of fire hazard under all fire conditions."

"This report details methods of construction, the test conditions and results obtained when the specific element of construction described herein was tested following the procedure outlined in this standard. Any significant variations with respect to size, constructional details, loads, stresses, edge or end conditions, other than those allowed under the field of direct application in the relevant test method, is not covered by this report."

"Because of the nature of fire resistance testing and the consequent difficulty in quantifying the uncertainty of measurement of fire resistance, it is not possible to provide a stated degree of accuracy of the result."

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5. PERMISSIBLE VARIATIONS

In accordance with AS 1530.4:2014 clause 10.12, the permissible variations that are relevant to the tested penetration systems reported in test report FP14153-01 are as follows.

5.1 General

The results of the fire test contained in the test report are directly applicable without reference to the testing authority to similar constructions where the following changes have been made.

5.1.1 Separating Elements

Results obtained may be applied to the performance of a system in concrete, masonry or solid gypsum blocks of greater or equal thickness to that of the tested prototype.

Results obtained may be applied to similar walls having studs of the same material with sizes greater than the tested prototype.

Results obtained may be applied to framed wall systems of similar construction but having thicker facings of the same material applied to the studs.

5.1.2 Metal Pipes

Results obtained may be applied to pipes of the same material and to ferrous pipes having outside diameters not greater than the tested diameter, and wall thickness not less than the tested thickness.

5.1.3 Electrical and Communication Cables

The results of tests may be applied to all PVC and XLPE insulated and PVC sheathed electrical and communication cables with copper conductors, provided the results are for the same penetration sealing system in the same separating element and all of the specimens achieved the designated FRL or greater.

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PHOTOS

Photo 1: The Unexposed Face of the Specimen Prior to Testing

Photo 2: The Unexposed Face of the Specimen After a Duration of 30 Minutes

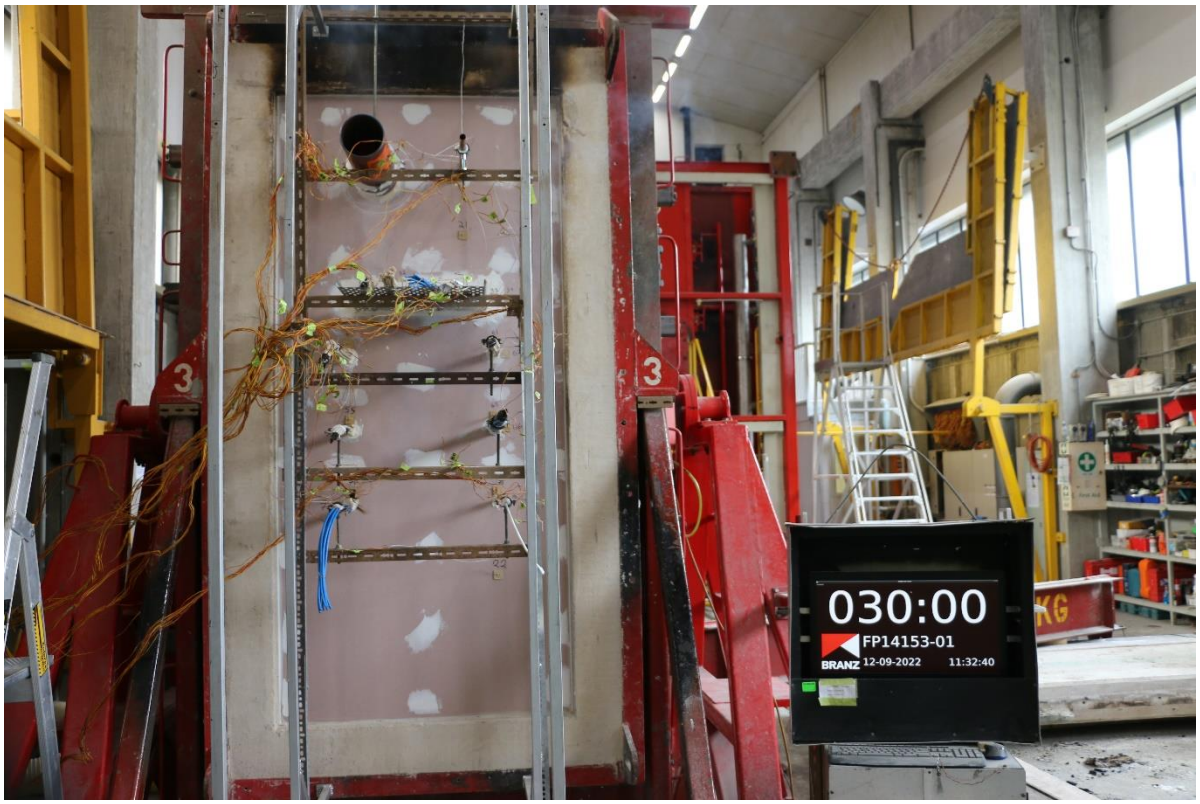

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Photo 3: The Unexposed Face of the Specimen After a Duration of 60 Minutes

Photo 4: The Unexposed Face of the Specimen After a Duration of 75 Minutes

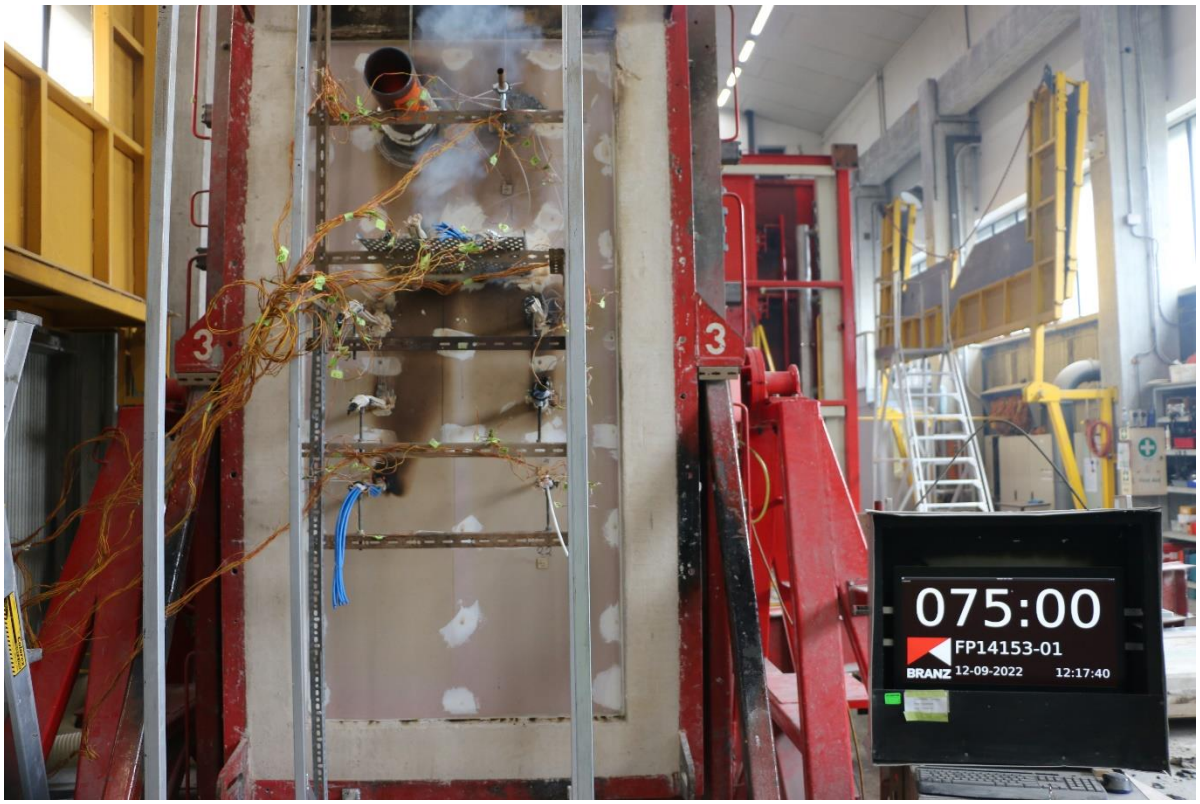

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Photo 5: The Unexposed Face of the Specimen After a Duration of 93 Minutes

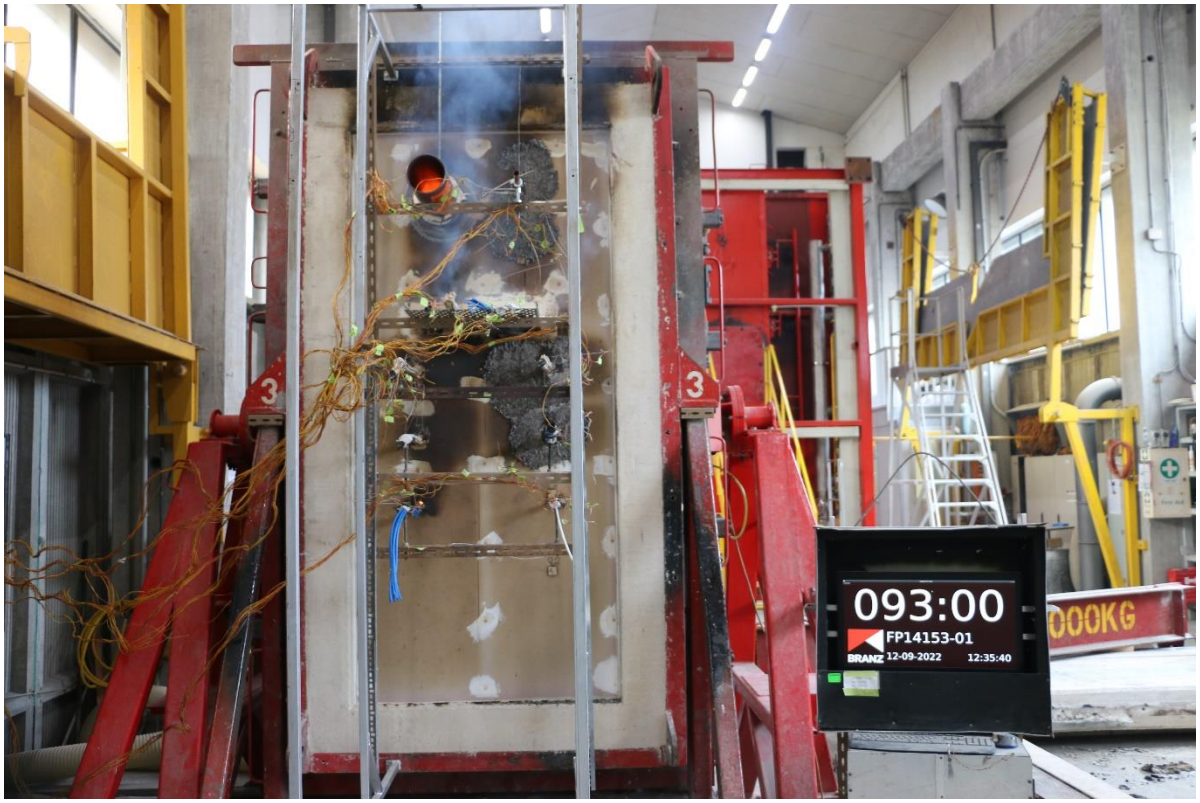
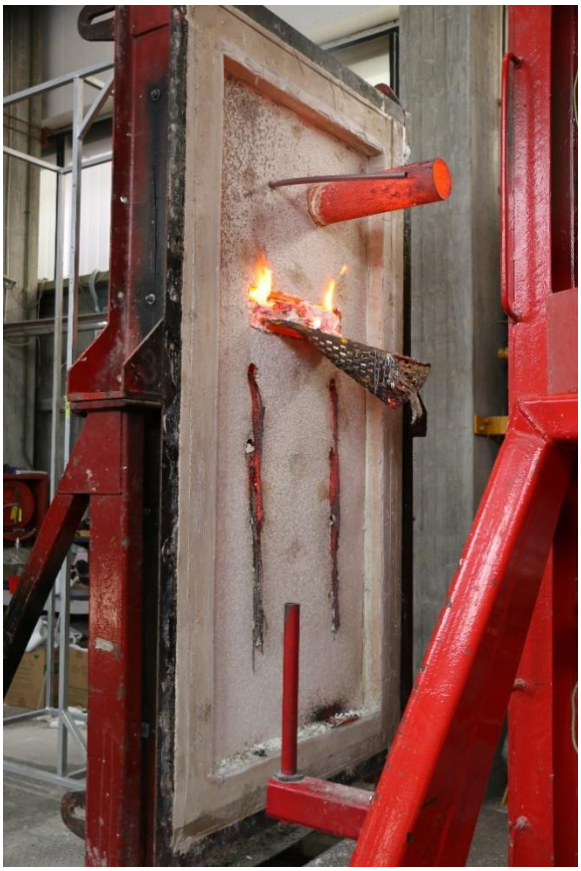


Photo 6: The Exposed Face of the Specimen Immediately After Testing



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FP14153-01-1-C1
Type Test Summary

This is to certify that the specimen described below has been tested by BRANZ on behalf of the sponsor.

Sponsor: **Soudal Limited**
14 Avalon Drive
Nawton
Hamilton, 3200
New Zealand

Referenced Standard: AS 1530.4:2014 & AS 4072.1:2005

Specimen Description: Various pipe and cable penetrations installed within a GBS 60 wall

A full description of the test specimen and the test results are given in BRANZ Type Test report: FP14153-01-1

Orientation: Exposure from either side

The assessed results were as follows:

Specimen No.	Specimen Details	FRL*
1	125NB Steel Pipe Firecryl Acrylic Sealant	-/60/-
2	20 mm Ø Copper Pipe Firecryl Acrylic Sealant	-/60/-
3	Cable Tray: • SAT6DS PVC Co-Axial Cable Bundle • 4 mm^2 3 Core TPS Cable Bundle • C-C6-SLDBLUE 4Pair Ethernet Cable Bundle • Cat5e 4P+2SM Fibre Cable Bundle Firecryl Acrylic Sealant Gorilla Fire Rated Expanding Foam	-/60/30
4	2.5 mm^2 & 4 mm^2 3 Core TPS Cable Bundle Firecryl Acrylic Sealant	-/60/60
5	2.5 mm^2 & 4 mm^2 3 Core TPS Cable Bundle Firecryl Acrylic Sealant	-/60/30
6	2.5 mm^2 & 4 mm^2 3 Core TPS Cable Bundle Firecryl Acrylic Sealant	-/60/30
7	• SAT6DS PVC Co-Axial Cable Bundle • C-C6-SLDBLUE 4Pair Ethernet Cable Bundle • Cat5e 4P+2SM Fibre Cable Bundle Firecryl Acrylic Sealant	-/60/60
8	C-C6-SLDBLUE 4Pair Ethernet Cable Bundle Firecryl Acrylic Sealant	-/60/30
9	Cat5e 4P+2SM Fibre Cable Firecryl Acrylic Sealant	-/60/60

Issued by
S. Whatham
Fire Testing Engineer
BRANZ

Reviewed by
M. E. Godkin
Senior Fire Testing Engineer
BRANZ

Regulatory authorities are advised to examine test reports before approving any product.

Issue Date
27 October 2022

Expiry Date
27 October 2027